GPFD 24Dx48
General Purpose Freeze Dryer

SP VirTis

Specifications

	25L ES	35L EL
Chamber temperature control range (without heat)	-29°C to 0°C	-29°C to 0°C
Chamber temperature control range (with heat)	-29°C to 60°C	-29°C to 60°C
Lowest condenser temperature (50 Hz / 60 Hz)	-50°C / -53°C	-82°C / -85°C
Maximum condenser capacity	25 L	35 L
Condenser surface area	506 in^2 (3264 cm^2)	750 in^2 (4838 cm^2)
Maximum ice condensing capacity in 24 hours[†]	12 L	20 L
Maximum deposition rate[†]	0.50 L/hour	0.83 L/hour
Number of compressors	2	3
Vacuum time to 100 mTorr[§]	≤ 30 minutes	≤ 30 minutes
Vacuum rate of rise[§]	≤ 30 mT/hour	≤ 30 mT/hour
Lowest system vacuum[§]	≤ 50 mT	≤ 15 mT

Note: Performance specifications are based on SP test data from units operating at an ambient room temperature of approximately 20°C. SP recommends an operating range of 15-25°C (59-77°F).

Utility Requirements

	25L ES	35L EL
Ambient room temperature	20°C	20°C
Approx. peak heat generated (without heat)	7,200 BTU/h (2.1 kW)	9,800 BTU/h (2.9 kW)
Approx. peak heat generated (with heat)	8,900 BTU/h (2.6 kW)	11,500 BTU/h (3.4 kW)

Electrical Requirements

208 / 230 VAC*	1 Φ	60 Hz*
220*	1 Φ	50Hz*
230 / 240 VAC*	1 Φ	50 Hz*

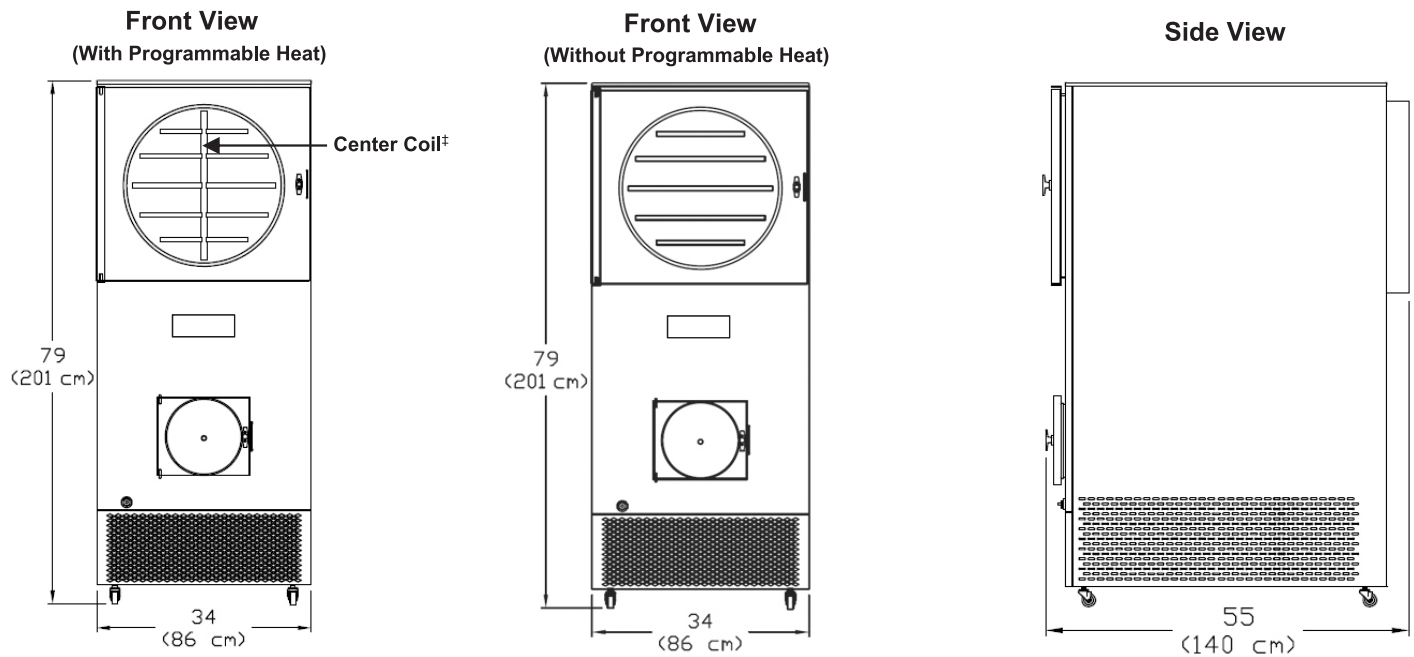|	25L ES	35L EL
Breaker amperage*	30 A	40 A
Plug type (60 Hz Systems)	NEMA L6-30-P	NEMA 6-50-P
Recommended receptacle (60 Hz Systems)	NEMA L6-30-R	NEMA 6-50-R

Key Features

- **Compact, freestanding and mobile design**
- **Clear acrylic product and condenser chamber doors**
- **Optional programmable heat allows for chamber temperature control to 60°C**
- **Intellitronics™ controller with manual and automatic drying capabilities**
- **Smooth-wall condenser**
- **304 Stainless steel trays with open mesh**

Refrigerant Information

	25L ES		35L EL		
	Gas 1	Gas 2	Gas 1	Gas 2	Gas 3
F gas	MO89	R404A	R407C	R508B	R404a
Charge (Kg)	0.594	0.566	0.906	0.299	0.566
GWP	3805	3922	1774	13396	3922
EPA SNAP	—	IPR/VLTR	IPR/VLTR	IPR/VLTR	IPR/VLTR
Safety Class	A1	A1	A1	A1	A1
Total CO2e (t)	4.481		7.832		

Note: The refrigerants and insulating foam contain fluorinated greenhouse gases. For more information please visit scientificproducts.com

Front View
(With Programmable Heat)

Center Coil‡

79 (201 cm)

34 (86 cm)

Front View
(Without Programmable Heat)

79 (201 cm)

34 (86 cm)

Side View

55 (140 cm)

Dimensional Data

Width	34 in (86 cm)
Depth	55 in (140 cm)
Height	79 in (201 cm)
Approximate weight	950 lb (432 kg)
Minimum clearance on all sides	10 in (25.4 cm)

Additional Information

Construction	316L stainless steel product and condenser chambers
Vacuum pump§	Two-stage rotary vane
Defrost type	Hot gas
Refrigerant type	CFC-free
Vapor port	4 in

*   Voltage supply should be ±5% of the specified nominal voltage. SP VirTis units are highly customizable and SP can configure any unit to conform to the service requirements of a wide range of international voltage and phase configurations. Contact SP for more information.

†   The specified Maximum Ice Condensing Capacity in 24 Hours and Maximum Deposition Rate are based on the process of freeze-drying water as aggressively as possible. The freeze dryer's ability to collect ice at an hourly rate or over a specified period is application dependent.

‡   The center coil is provided in the chamber of those units equipped with the programmable heat option. This center coil is used to provide additional heating and cooling of the product chamber and trays. The chamber temperature of units without the heat option is cooled and controlled only by refrigeration coils wrapped around the chamber exterior. A pneumatic isolation valve is included with the programmable heat option.

§   Vacuum specifications are based on SP test data from similar units equipped with a two-stage rotary vane 400 LPM (liters per minute) vacuum pump.

** Limited tray spacing available on the top tray.